

9429

Diag. Cht. Nos. 1001-3 & 1241-2

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey Hydrographic
Field No. WH-40-2-74
Office No. H-9429

LOCALITY

State Georgia
General Locality Georgia Coast-Offshore
Locality East of Sapelo Island

1974

CHIEF OF PARTY

R.A. Trauschke

LIBRARY & ARCHIVES

DATE April 21, 1975

9429

HYDROGRAPHIC TITLE SHEET

H-9429
Not IssuedINSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form,
filled in as completely as possible, when the sheet is forwarded to the Office.

FIELD NO.

WH-40-2-74

State Georgia

General locality Georgia Coast - Offshore

Locality East of Sapelo Island

Scale 1:40,000 Date of survey 7 April - 17 May 1974

Instructions dated 29 Oct 1973 (see remarks) Project No. OPR-436-WH-74

Vessel Ship WHITING

Chief of party CDR Robert A. Trauschke

Surveyed by CDR R.A. Trauschke, LCDR Daniels, LT Theberge, LT Meyers,
ENS Gastaldo, ENS Perrin, ENS Gullekson, ENS Bennet, Jr.

Soundings taken by echo sounder, hand lead, etc.

Graphic record scaled by Ship personnel

Graphic record checked by Ship personnel

Protracted by _____ Automated plot by CALCOMP AMC
WHITING System

Soundings penciled by WHITING Shipboard System CALCOMP AMC

Soundings in KXXXX feet at MLW NEKE

REMARKS: Time meridian of this survey was 0° Project Instructions
dated 29 October 1974 are supplemented by Change No. 2 to Project
Instructions dated Dec 10, 1973 and Change No. 2 to Project Instruc-
tions dated Feb 8, 1974.

Misc. items have been removed from this D.R. and are filed with the field records

Chart
1242-11502
1241-11509
1111-11480
1001-11007
1007-411
1574-11510

Applied to stabs 5/29/75
CAB

NE

A. PROJECT

This project was completed in accordance with Project Instructions for OPR 436 dated October 29, 197~~3~~⁴ and supplemented by Change No. 1 to Project Instructions dated December 10, 1973 and Change No. 2 to Project Instructions dated February 8, 1974. ✓

B. AREA SURVEYED

The area surveyed is east of Sapelo Island, Georgia and is bounded by lines joining the following points. ✓

| | | |
|---|--------------|-------------|
| 1 | 081° 00' .8W | 31° 36' .6N |
| 2 | 081° 02' .0W | 31° 31' .0N |
| 3 | 081° 08' .6W | 31° 20' .5N |
| 4 | 080° 43' .3W | 31° 20' .5N |
| 5 | 080° 43' .3W | 31° 29' .5N |
| 6 | 080° 42' .4W | 31° 29' .5N |
| 7 | 080° 42' .4W | 31° 36' .6N |

Soundings were taken during the period from April 7, 1974 to May 17, 1974. ✓

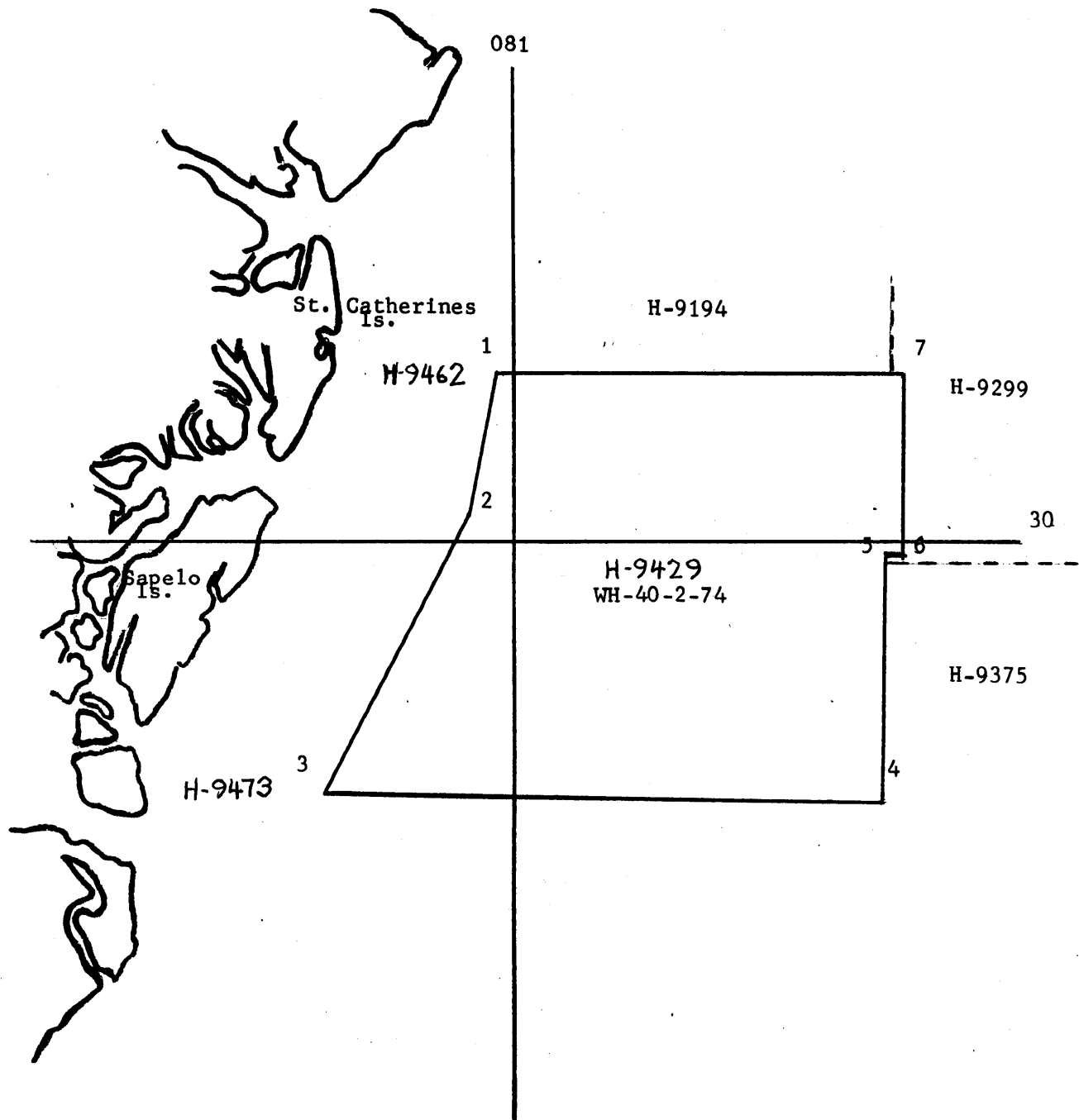
This survey junctions on the north with H-91⁴~~8~~4 of scale 1:40,000 completed by the WHITING in May 1974. The survey is bounded on the east by #9299 of scale 1:80,000 completed in 1972 and H-9375 of scale 1:80,000 completed in 1974. The junction to the south will be with WH-40-3-74 which is in progress, H-9430 (1974). On the west with H-94~~6~~⁷2 (1974) 1:20,000 and H-9473 (1974) 1:20,000 ✓

C. SOUNDING VESSEL

The WHITING made all soundings. ✓

D. SOUNDING EQUIPMENT

Two Ross Depth Recorders, Model 5000, serial numbers 1049 and 1055 were used in waters varying from 28 to 72 feet in depth. Corrections were made by computations from temperature, depth and conductivity data with leadline comparisons. See "Echo Sounder and Velocity Correction Report" in Appendix 11. ✓



E. SMOOTH SHEET

The smooth sheet will be plotted by the Processing Division at the Atlantic Marine Center. ✓

Accompanying this report are two mylar plotter sheets WH-40-2N-74 and WH-40-2S-74 containing main scheme hydrography and cross lines, and two overlays containing developments, splits, bottom samples and pre-survey review item locations. ✓

The discussion of calibration error applied to the "boat smooth" sheet is in Appendix 1, "Electronic Control Report". ✓

F. CONTROL

The electronic control for this survey was the Sea-Fix (Hyperbolic Mode) System as modified by Odom Offshores Industry. See Appendix 1, "Electronic Control Report" for location of the stations, Sea-Fix specifications, and calibration procedures. ✓

AMC located all stations.

G. SHORELINE

This survey area contains no shoreline. ✓

H. CROSSLINES

There are no major discrepancies between crosslines and main scheme hydrography. Differences vary between one and two feet. This is accounted for by wave action. ✓

Crosslines are approximately 9 per cent of main scheme hydrography. ✓

I. JUNCTIONS

(H-9429)
WH-40-2-74 junctions on the north with contemporary survey 1:40,000 H-9144 completed May 2, 1974. Hydrography was continued immediately from one sheet to the next and there are no discrepancies in soundings. ✓

The northern portion of the eastern border junctions with PIERCE 1:80,000 survey H-9299 completed in 1972. As H-9299 is a complete survey, TRA and velocity correctors are applied while they are not applied to WH-40-2-74 soundings. The appropriate corrections were applied by inspection. ✓

Soundings from the two surveys generally agree. In the vicinity of $31^{\circ} 22' .0N$, $080^{\circ} 43' .5W$ the WHITING soundings vary from 740 to 769 feet while the ~~PIERCE~~ soundings vary from 667 to 727 feet. This area lies in a slight trough in which there has probably been some current caused erosion. ✓

The southern portion of the eastern border junctions with Mt. MITCHEL 1:40,000 survey H-9375 completed in 1974. ✓
Velocity corrections were not applied to the Mt. MITCHEL soundings so only a final TRA correction for the WHITING need be applied in comparing soundings. Agreement between the two surveys is excellent with sounding seldom varying more than one foot.

See Appendix 11 for TRA and velocity corrections.

J. COMPARISON WITH PRIOR SURVEYS

Pre-survey review item positions are listed on the following page. The number of code item is plotted on the boat sheet overlay and is used to identify the item on the pre-survey review sheets. Final TRA and velocity corrections for the reviewed depths were made by inspection. Further investigation was not required for any item. It should be noted that the bottom consists of sand ridges subject to continuous shifting. ✓

- #45 Pre-survey review item added from H-3983: This is a 56 foot sounding which was found. ^{approximately} The shoalest sounding in the area is 532 feet located 1.0 miles southwest. The recommendation is to chart the shoaler sounding. Concur ✓
- #46 Pre-survey review item added from H-3983: This is a 52 foot sounding which was not found. The recommendation is to chart shoalest sounding in the area. ^{lesser depths nearby.} Concur ✓
- #47 Pre-survey review item added from H-3983: This is a 44 foot sounding which was found. As there is a 4342 foot sounding located ~~3 miles south~~ ^{within 500 meters (NE)}, the recommendation is to chart the shoaler sounding. Concur ✓
- #49 Pre-survey review item from C&GS Chart 1241: This is a 39 foot sounding which was ~~not~~ found. The recommendation is to chart the shoalest sounding in the area. ^{37 ft depth found} Concur ✓

- #50 Pre-survey review item from C&GS Chart 1241: This is a ~~39~~ 42 foot sounding which was found. There are no shoaler soundings in the area. The recommendation is that ~~this~~ lesser present survey soundings be charted. ✓
- #51 Pre-survey review item from C&GS Chart 1241: This is a 42 foot sounding which was not found. The recommendation is to chart the shoalest sounding in the area. 44' Concur ✓
- #52 Pre-survey review item from C&GS Chart 1241: This is a 35 foot sounding which was not found. The recommendation is to chart the shoalest sounding in the area. 36' sounding 0.2 mile southeast. Concur ✓
- #53, #56, #57, #58 Pre-survey review item J from Local Notice to Mariners No. 39 of 1971: These are reported artificial fishing reefs marked by four can bouys. Inspection of the fathograms yields no indication of reefs at positions #53, #56, and #57. There is a slight trace of something possibly rising about a foot from the bottom in the vicinity of position #58. Further investigation was not warranted. There are no bouys at these locations. It is recommended that the fish havens be ~~deleted from~~ retained on the chart as per reporting source. ✓
- #054 Pre-survey review item added from H-3983: This is a 69 foot sounding which was not found, although 69 foot soundings exist 1. mile to the west and 0.7 mile to the south. The recommendation is to chart the shoalest present survey soundings in the area. ✓
- #055 Pre-survey review item added from H-3983: This is a 68 foot sounding which was located .2 miles east. As shoaler soundings exist nearby the recommendation is to chart the shoalest present survey soundings in the area. ✓
- #059 Pre-survey review item from C&GS Chart 1241: This is a 63 foot sounding which was found .4 miles southeast. As it is the shoalest sounding in the area the recommendation is to chart it. Revise chart to agree with the present survey. ✓
- #65 Pre-survey review item C&GS Chart 574: This item is a charted sounding of 29 feet which was ~~not~~ found nearby. The recommendation is that the shoalest depth in the area be charted, from the present survey. ✓
- #88 Pre-survey review item from C&GS Chart 574: This item is a charted sounding of 34 feet which was ~~found~~ ^{verified}. However, a 323 foot sounding exists .1 miles ~~northwest~~ ^{northeast}. The recommendation is that ~~this~~ lesser present survey soundings be charted. in the area. ✓

#95 Pre-survey review item from C&GS Chart 574: This is a 36 foot sounding which was found, and is the shoalest charted sounding in the area. It is recommended that ~~it be~~ ^{charted 7/75 JWC} ~~charted~~, the least present survey depth of 35 ft. be charted.

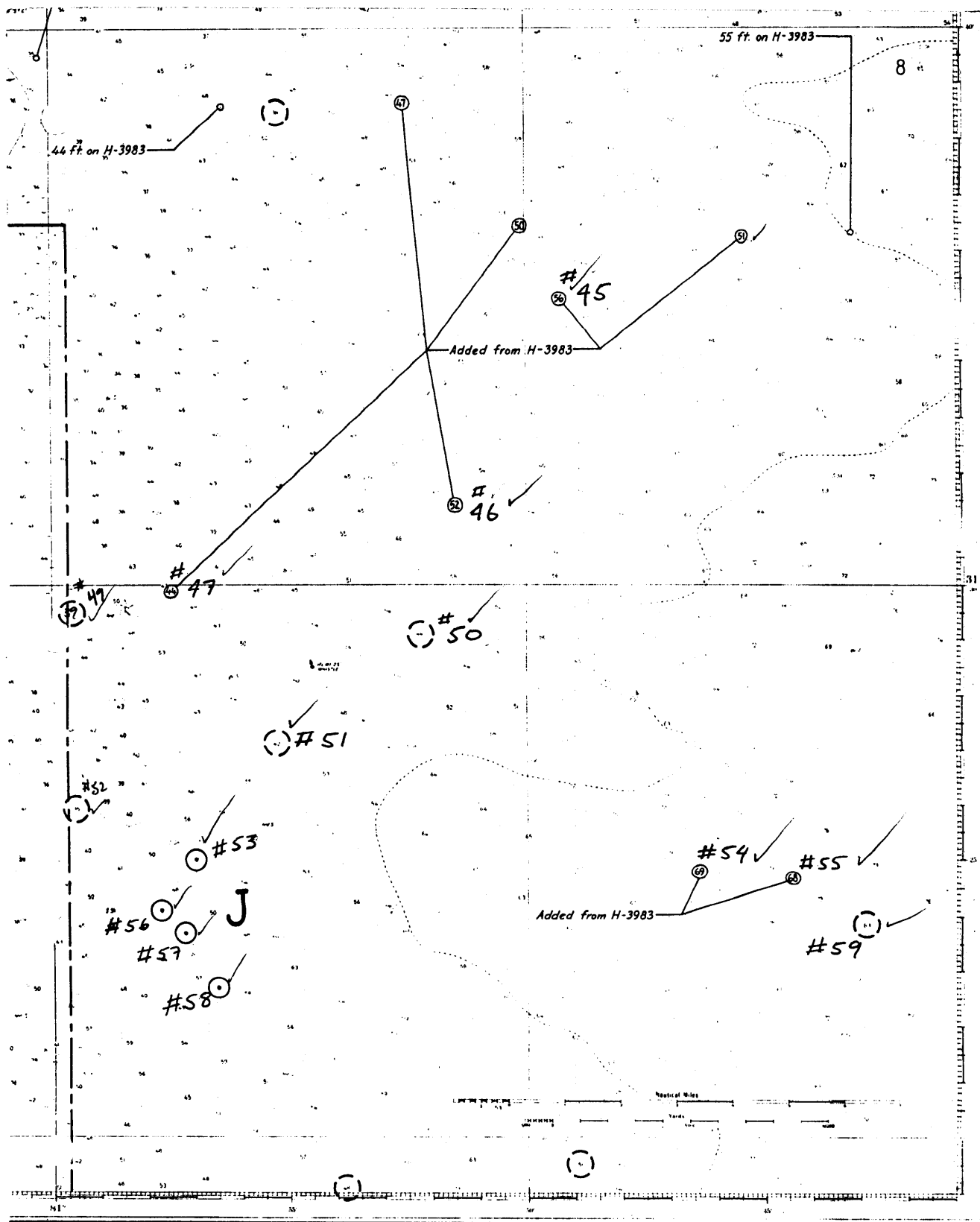
COMPARISON WITH SURVEY H-3983 1:80,000 1916-1917:

The soundings of survey H-3983 are generally close to those of WH-40-2-74. Where there was a discrepancy of a few feet a sounding equal to that inspected on H-3983 could usually be found within several hundred meters of the selected position on WH-40-2-74. On the eastern side of the sheet several of the soundings from H-3983 exceeding 70 feet were not found.

Discrepancies are accounted for by the susceptibility of features on the sandy bottom to current induced migration.

PRE-SURVEY REVIEW ITEMS WH-40-2-74

| <u>Item #</u> | <u>Latitude</u> | <u>Longitude</u> |
|---------------|-----------------|------------------|
| 045 | 31° 35' 05"N | 080° 49' 18"W✓ |
| 046 | 31° 31' 24"N | 080° 51' 30"W✓ |
| 047 | 31° 29' 53"N | 080° 57' 30"W✓ |
| 049✓ | 31° 29' 30"N | 080° 59' 35"W✓ |
| 050 | 31° 29' 05"N | 080° 52' 14"W✓ |
| 051✓ | 31° 27' 06"N | 080° 55' 14"W✓ |
| 052 | 31° 25' 55"N | 080° 59' 30"W✓ |
| 053 | 31° 25' 03"N | 080° 57' 00"W✓ |
| 054 | 31° 24' 46"N | 080° 46' 25"W✓ |
| 055 | 31° 24' 40"N | 080° 44' 28"W✓ |
| 056 | 31° 24' 07"N | 080° 57' 42"W✓ |
| 057 | 31° 23' 43"N | 080° 57' 12"W✓ |
| 058 | 31° 22' 45"N | 080° 56' 31"W✓ |
| 059 | 31° 23' 51"N | 080° 43' 54"W✓ |
| 065 | 31° 34' 55"N | 081° 00' 24"W✓ |
| 088 | 31° 23' 00"N | 081° 03' 00"W✓ |
| 095 | 31° 21' 00"N | 081° 00' 47"W✓ |



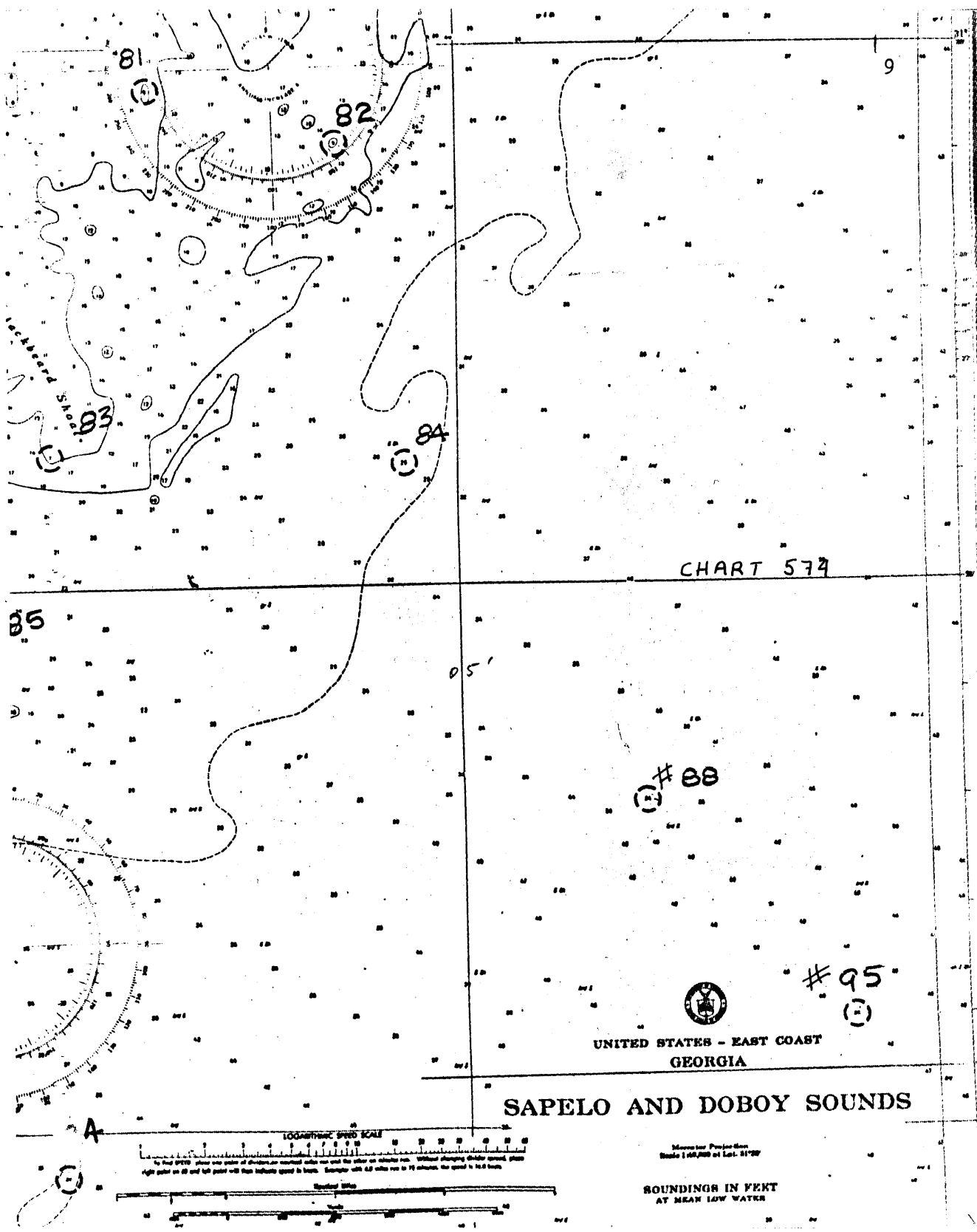


CHART 577

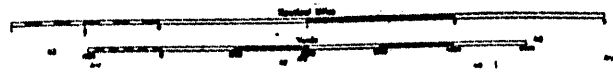
UNITED STATES - EAST COAST
GEORGIA

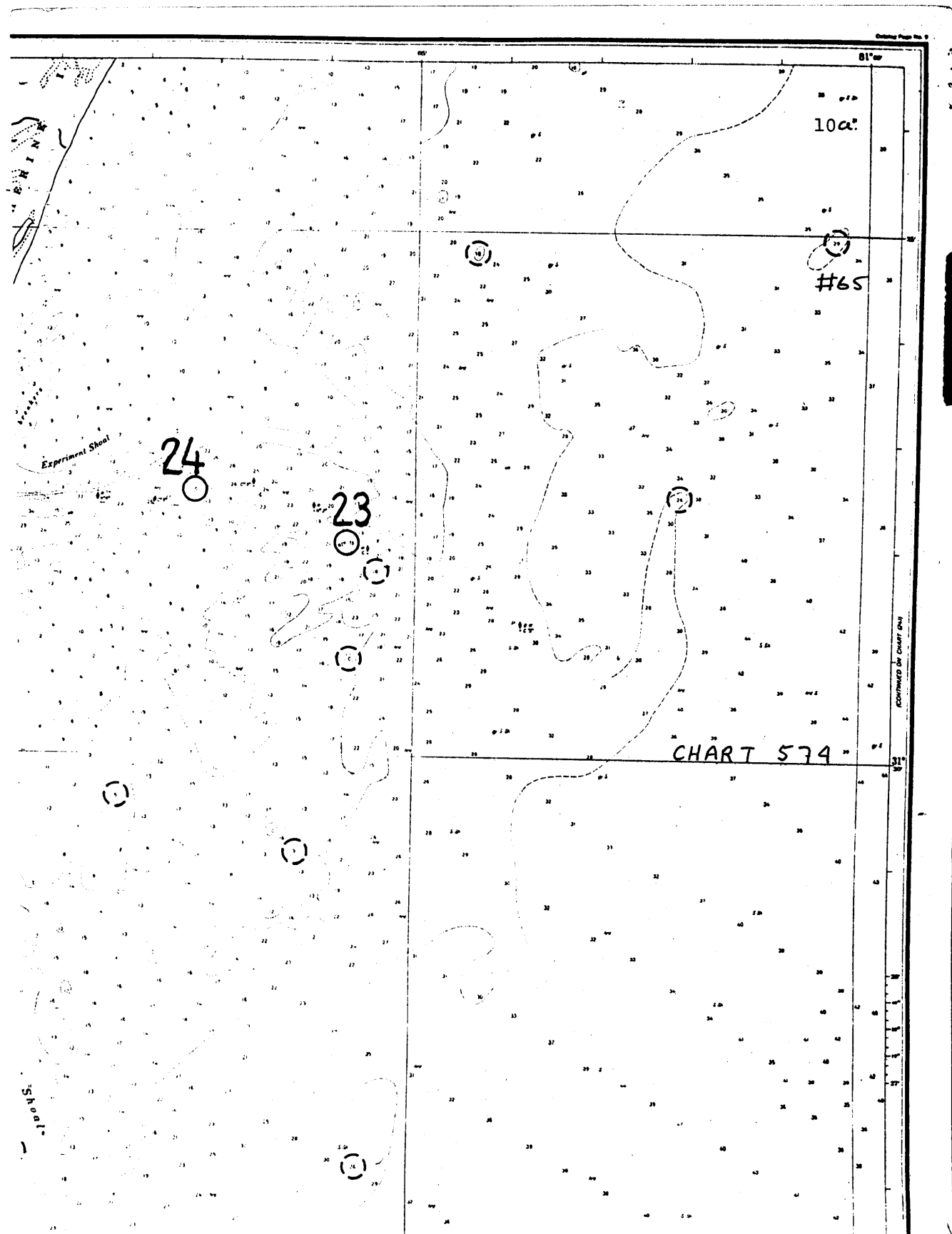
SAPELO AND DOBOY SOUNDS

Maximum Projection
Scale 1:50,000 at Lat. 31° 20'

SOUNDINGS IN FEET
AT MEAN LOW WATER

LOGARITHMIC SPEED SCALE
To find SPEED, place one point of dividers on marked value on scale and the other on number on scale. Without changing divider spread, place right point on 60 and left point will then indicate speed in knots. Example: with 4.0 width run in 19 minutes, the speed is 10.0 knots.





K. COMPARISON WITH THE CHART

C&GS Chart 574 October 21, 1972: Soundings were generally in agreement with those on this chart. Where a discrepancy exists, charted soundings can usually be found on the boat sheet within several hundred meters of the charted position. Several developments were made on the western edge to determine the extent of shoaling near the shoalest charted soundings and near the shoalest main scheme soundings. A 29 foot (30 ft. on smooth sheet) sounding was found at $31^{\circ} 34' 85''$ N, $081^{\circ} 00' 35''$ W. approximately 1 mile south of a charted 29 foot sounding. The depth in between varies from 27 feet to 36 feet. None of the western developments revealed depths varying more than a few feet from those on the chart.

C&GS Chart 1241 July 7, 1973

The soundings on WH-40-2-74 also generally agree with those on C&GS 1241. Slight variations are attributed to the shifting of the sand ridges delineated on the boat sheet. ✓

The Fish Haven Bouy "SLB" privately maintained and reported in Notice to Mariners, No. 3731973 to be at $31^{\circ} 24' .5$ N and $080^{\circ} 52' .6$ W was not found. It should not be charted. (See Review-sect. 6-b) ✓

L. ADEQUACY OF THE SURVEY

This survey is complete and adequate and should supersede all previous surveys.

M. AIDS TO NAVIGATION

Bouy R"28" charted at $31^{\circ} 28' .5$ N, $080^{\circ} 54' .5$ W is located .4NM south of $31^{\circ} 28' 07''$ N, $080^{\circ} 54' 40''$ W. This aid adequately serves its purpose. pos. # 5116 ✓

N. STATISTICS

| | |
|---------------------------|--------------------|
| Number of positions: | 511 7 6 |
| Miles of sounding lines: | 3053 |
| Number of bottom samples: | 5 |
| Area of sheet | 220.8 square miles |

O. MISCELLANEOUS

The bottom samples indicate that the bottom is sand throughout the area of the survey in agreement with Chart 1241. West of longitude $080^{\circ} 52' .0$, the contours are gently sloping ridges and troughs trending toward the southeast. East of longitude $080^{\circ} 52' .0$, the ridges and troughs tend more toward the east as the bottom becomes more even with the exception of several isolated and very pronounced slopes in the vicinity of $31^{\circ} 26' N$, $31^{\circ} 32' N$ and $31^{\circ} 34' N$. ✓

P. RECOMMENDATIONS

None

Q. REFERENCES

Electronic Control Report, OPR 436 WH-40-2-74
Echo-Sounder and Velocity Report OPR 436 WH-40-2-74

APPROVAL SHEET

Submitted by:

Bradford B. Meyers

Bradford B. Meyers
LT, NOAA

&

James Hail Bennett Jr.

James H. Bennett, Jr.
ENS, NOAA

Approved/Forwarded

Robert A. Trauschke

Robert A. Trauschke
CDR, NOAA
Commanding

APPENDIX

LIST OF SIGNALS

| Name | Location | Latitude | Longitude |
|------------------------------|--|-----------------|------------------|
| unknown | Mayport Naval Station, FL | 30° 23' 40.366" | 081° 23' 41.056" |
| Radd 2, 1974 | Tybee Island, GA | 32° 01' 12.30" | 080° 50' 35.22" |
| Savannah Offshore Tower 1968 | East of Tybee Island, GA (The name of Savannah Offshore Tower, 1974 and its position are currently subject to contention) | 31° 57' 00.416" | 080° 40' 59.062" |
| Simon 1974 | St. Simons, GA | 31° 08' 27.12" | 081° 22' 03.11" |

ECHO-SOUNDER CORRECTION ABSTRACT

SHIP WHITING

WH-40-2-74

| FROM | | TO | | VELOCITY TABLE |
|------|--------|-----|-------|----------------|
| Day | GMT | Day | GMT | Table #1 |
| 097 | 115402 | 137 | 08534 | |

NOTE: Only one velocity table was needed to complete this boat sheet (See Appendix II Echo-Sounder and Velocity Correction Report).

APPENDIX II

ECHO-SOUNDER AND VELOCITY CORRECTIONS REPORT

PROJECT OPR-436-WH-74

GEORGIA COAST

NOAA SHIP WHITING

ROBERT A. TRAUSCHKE, CDR, NOAA

COMMANDING

A. GENERAL DISCUSSION:

The hydrography for the boat sheet WH-40-2-74 of OPR-436-WH-74 was accomplished with the NOAA Ship WHITING. Ross model 5000 echo-sounders were used. Echo-sounder S.N. 1049 was used from the beginning of hydrography until Julian Day 121. Echo-sounder S.N. 1055 was used to completion of the sheet.

Echo-sounder operators made frequent checks for proper initial settings, and utilized the internal phase check. Both echo-sounders were initialized at zero feet.

B. VELOCITY CORRECTIONS:

Velocity corrections to depth soundings were determined from TDC cast data. Leadline comparisons were taken to validate the use of TDC velocity corrections. TDC casts were made on the eastern side of the sheet to encompass greater depths.

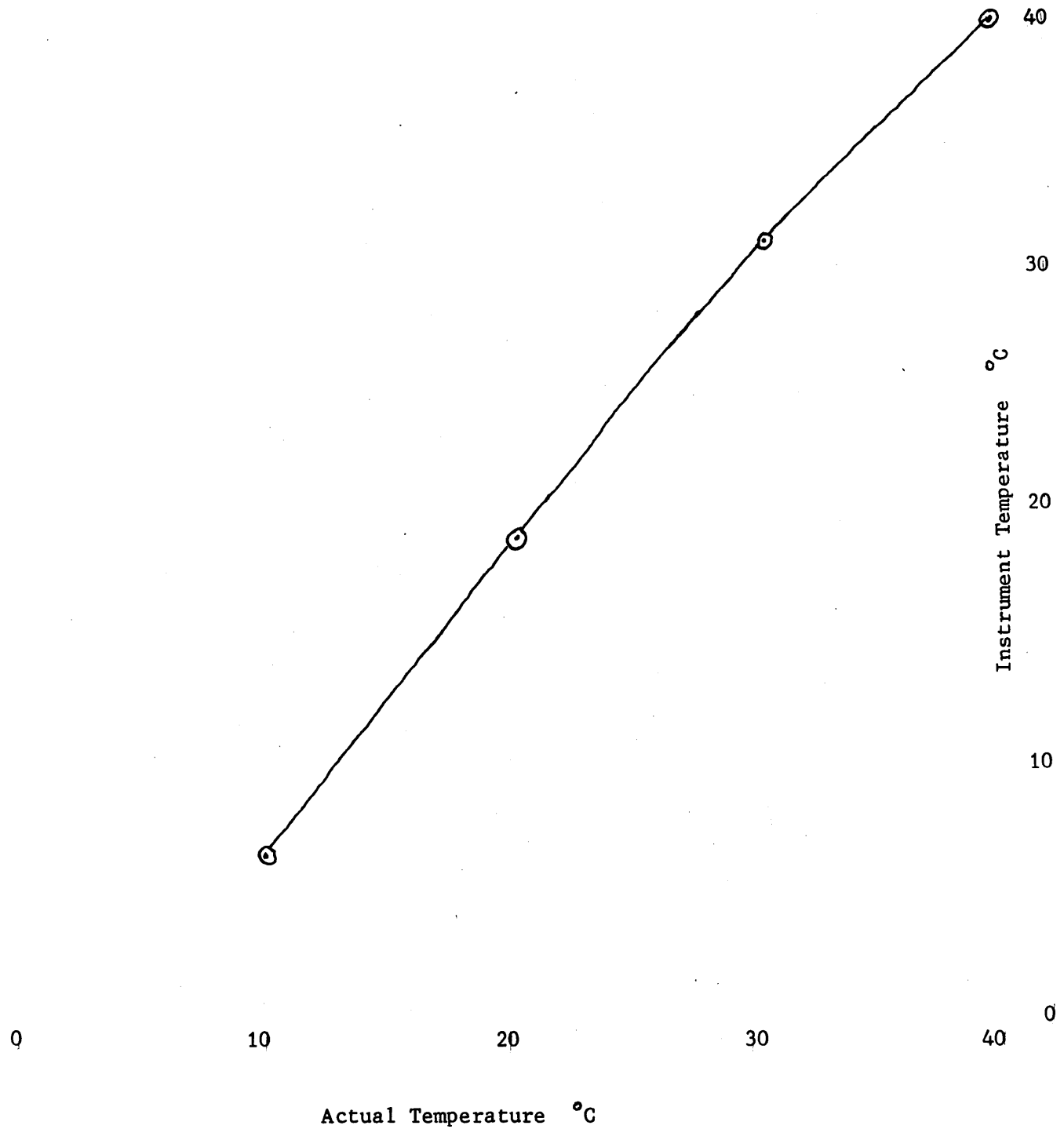
Computer program AM530 was used to calculate velocity of sound, and corrections to soundings from TDC data. The program uses input of salinity, temperature and depth from surface to depth. The TDC data was algebraically corrected in accordance with actual conditions. The program corrects for the vessel's draft. Graphs #1 and #2 show that over small changes in temperature and conductivity, the corrections to TDC observations are nearly constant. In the ranges we experience, the differences in corrections are negligible. Graph #3 shows that for the range we work (20°C to 28°C) the slope and placement of the curve closely approximates the real curve. The data for these graphs is from calibrations done by the National Oceanographic Instrumentation Center during this year's in-port period.

TDC casts were made on Julian Days 106, 121, and 137. The data from each of these casts is in the Appendix. Velocity correction tables and plots (Graph #4) of all three casts are on the following pages. At no depth is the discrepancy between plots greater than 0.6% of the depth so that averaging the three would cause them all to be well within 0.5% of the depth from the average. This is the largest discrepancy allowed by the Hydrographic Manual.

(2)

INSTRUMENT TEMPERATURE VS.
ACTUAL TEMPERATURE ($^{\circ}\text{C}$)

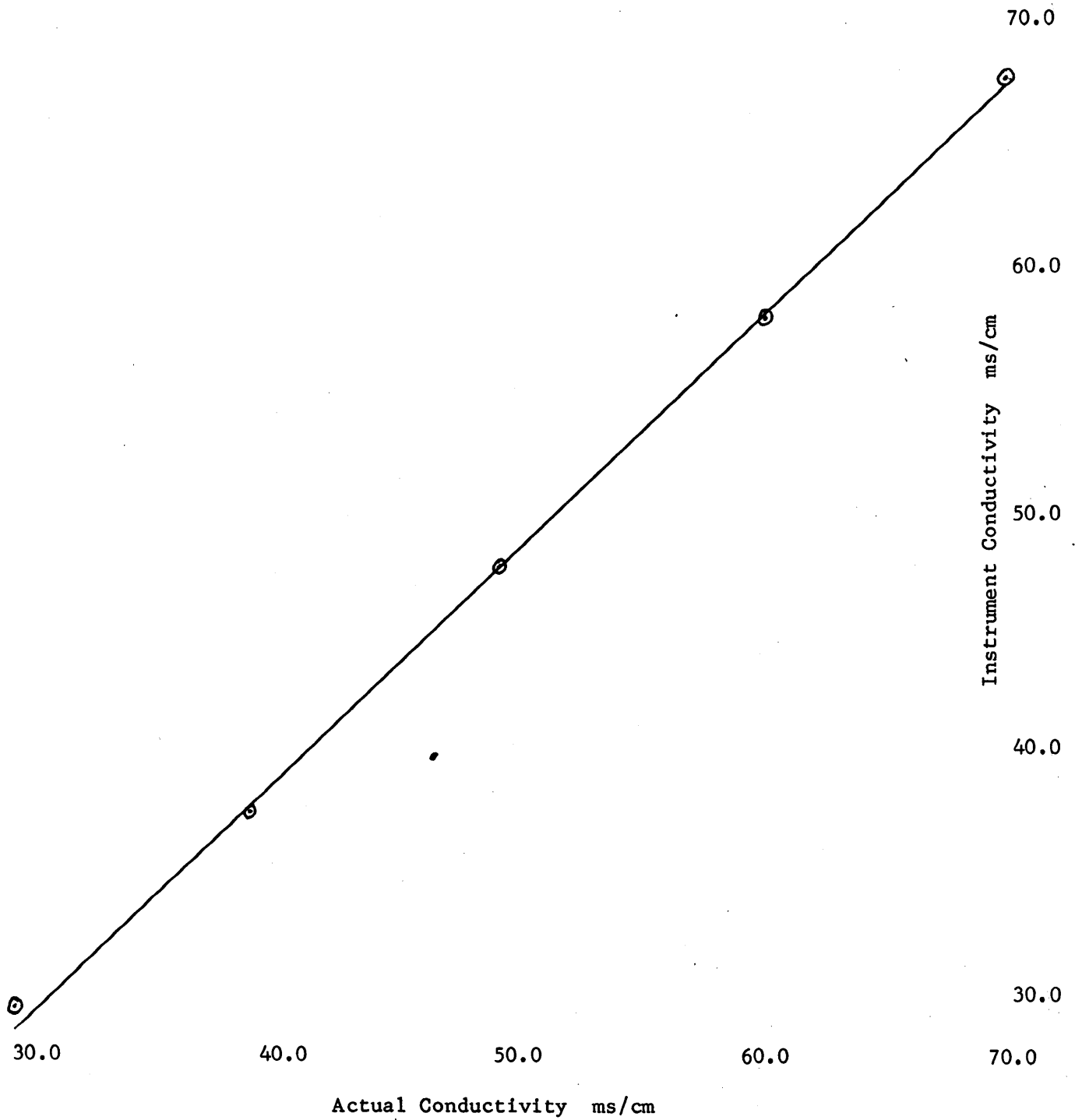
Graph #1



(3)

INSTRUMENT CONDUCTIVITY VS.
ACTUAL CONDUCTIVITY (ms/cm)

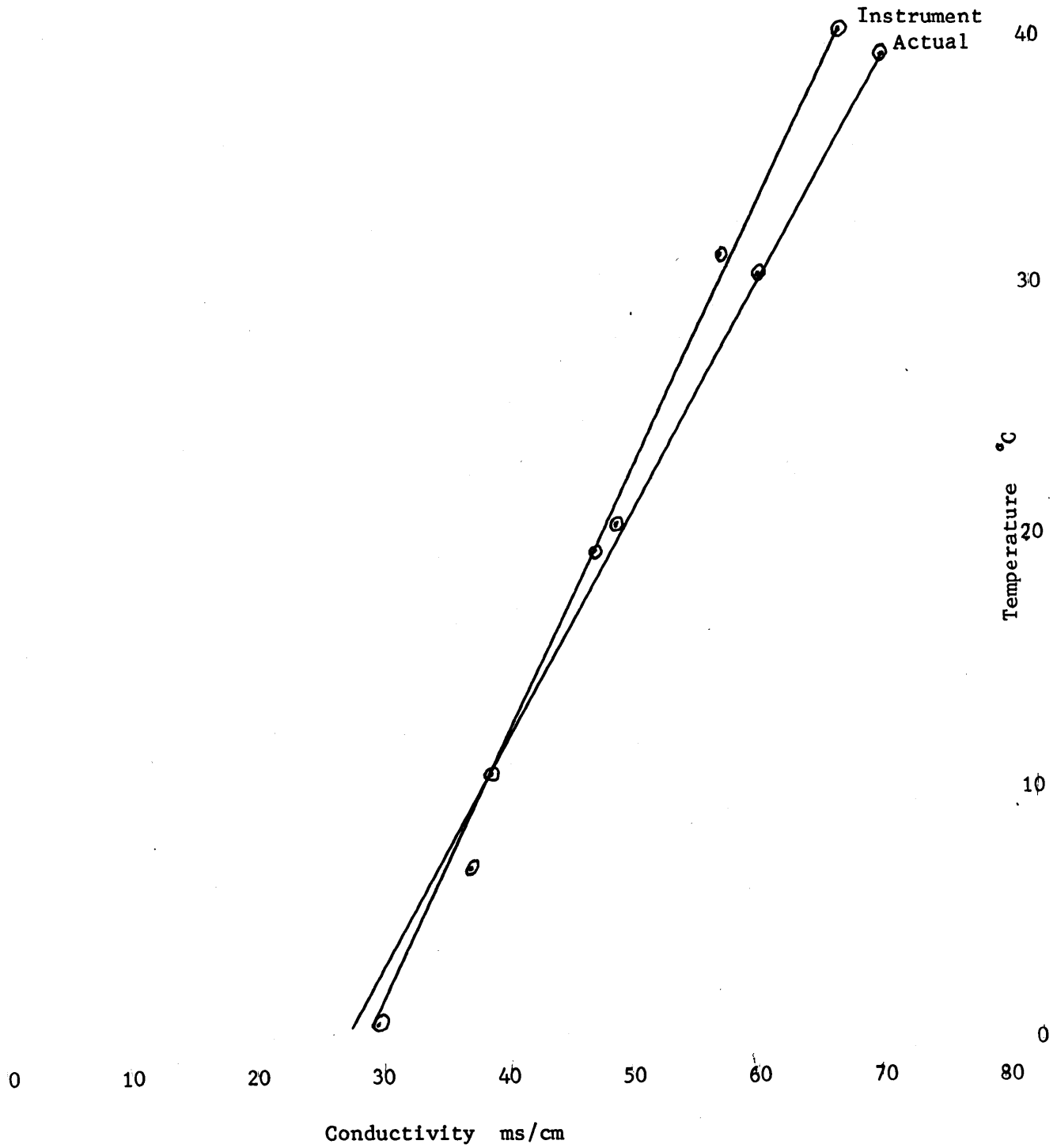
Graph #2



(4)

TEMPERATURE VS. CONDUCTIVITY
Actual and Instrument Curves

Graph #3



VELOCITY CORRECTION TABLE

| <u>Day</u> | <u>Depth</u> | <u>Total Corrections</u> |
|------------|--------------|------------------------------|
| 106 | 0.0 | .00 |
| | 6.6 | .26 |
| | 13.1 | .53 |
| | 19.7 | .79 |
| | 26.2 | 1.06 |
| | 47.6 | 1.92 |
| | 64.0 | 2.57 |
| 121 | 0.0 | .00 |
| | 6.6 | .29 |
| | 13.1 | .59 |
| | 19.7 | .88 |
| | 26.2 | 1.17 |
| | 47.6 | 2.10 |
| | 64.0 | 2.82 |
| 137 | 0.0 | .00 |
| | 6.6 | .33 |
| | 13.1 | .66 |
| | 19.7 | .99 |
| | 26.2 | 1.31 |
| | 47.6 | 2.36 |
| | 64.0 | 3.17 |
| Average | 0.0 | .00 |
| | 6.6 | .29 |
| | 13.1 | .59 |
| | 19.7 | .87 |
| | 26.2 | 1.18 |
| | 47.6 | 2.13 |
| | 64.0 | 2.85 |

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

GRAPH # 4
CORRECTIONS IN FEET, FATHOMS

FORM C&GS-117
(11-1955)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

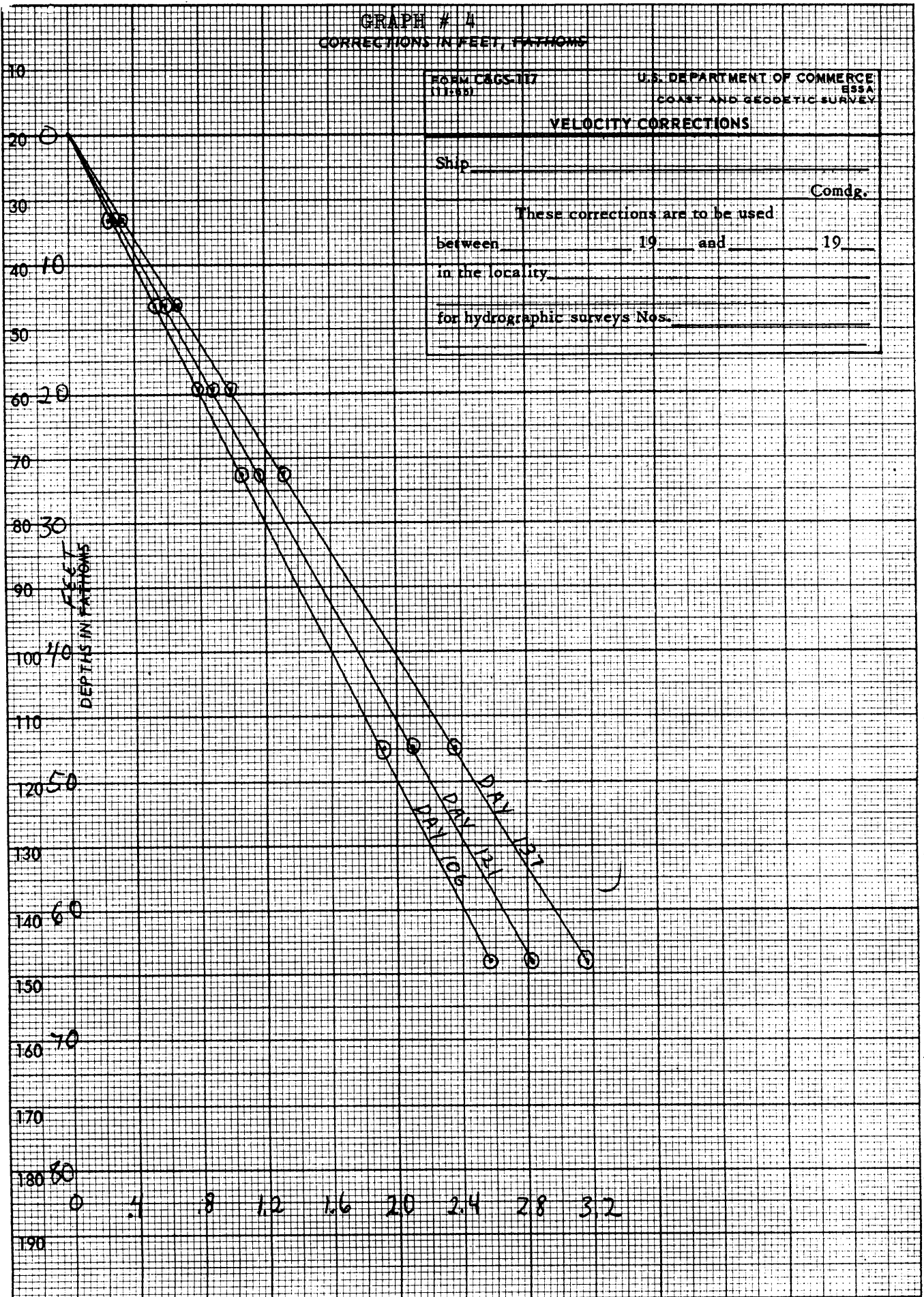
VELOCITY CORRECTIONS

Ship _____

Comdg. _____

These corrections are to be used
between _____ 19____ and _____ 19____
in the locality _____
for hydrographic surveys Nos. _____

(For deep water add a 0 to these figures



(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

GRAPH # 5
CORRECTIONS IN FEET, FATHOMS

FORM C&GS-117
11-1-63

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

Ship WHITING

CDR Robert A. Trauschke

Comdg.

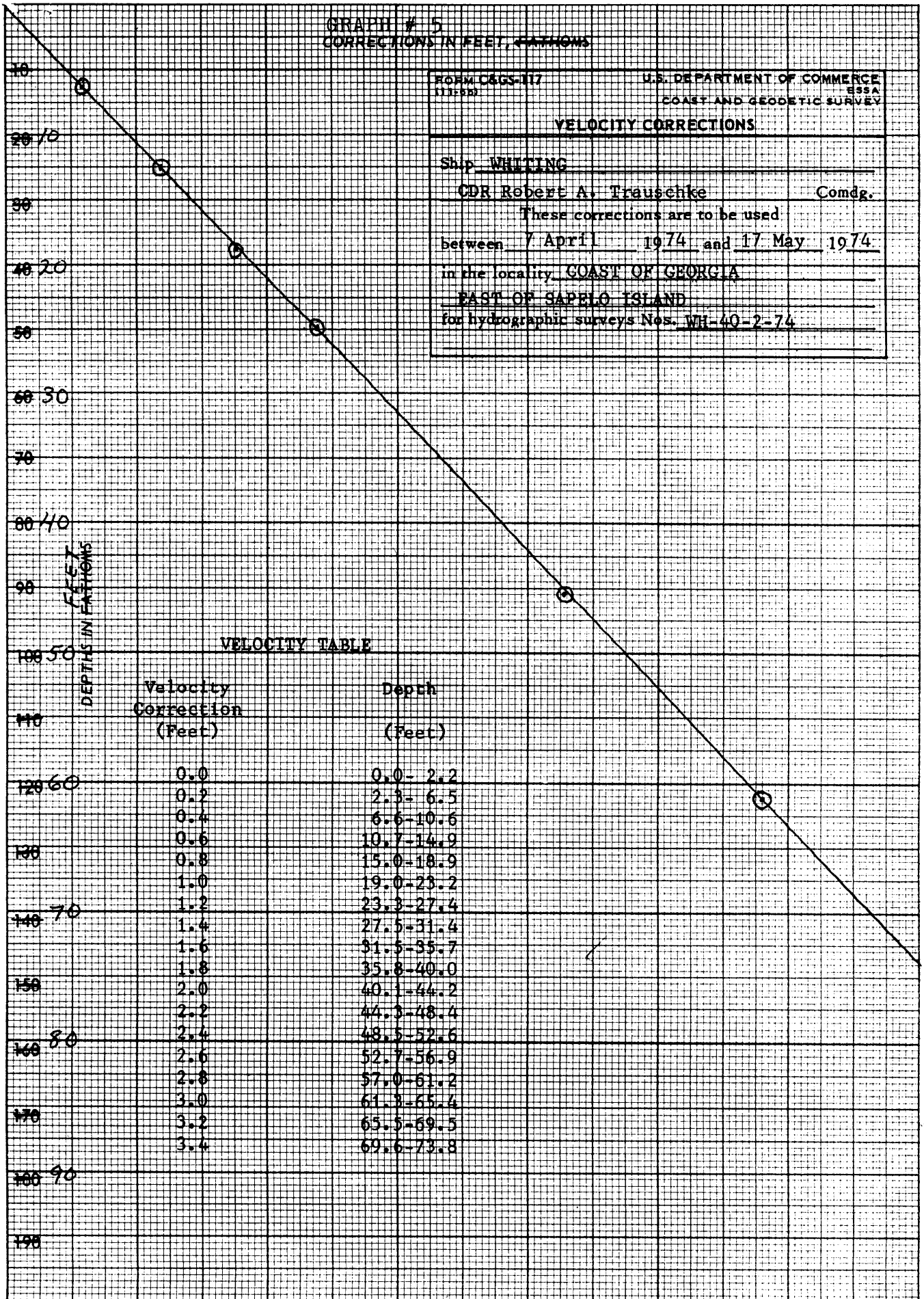
These corrections are to be used
between 7 April 1974 and 17 May 1974

in the locality COAST OF GEORGIA

EAST OF SAPELO ISLAND

for hydrographic surveys Nos. WH-40-2-74

(For deep water add a 0 to these figures





U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
NOAA Ship WHITING

Date: June 10, 1974

To : LCDR Dale North
Chief of Processing
From: CDR Robert A. Trauschke, NOAA
Commanding Officer

Subj: Corrections to Descriptive Report WH-40-2-74

An error was found in descriptive report for WH-40-2-74. The error is in the echo-sounder and velocity corrections report. Two copies of the*corrected pages are enclosed, and they should be substituted at the appropriate places in the report. Also enclosed is the velocity correction table.

** attached*

~~138~~

VELOCITY TABLE LISTING

000022 0 0000 0001 000 293000 040274
000065 0 0002
000106 0 0004
000149 0 0006
000189 0 0008
000232 0 0010
000274 0 0012
000314 0 0014
000357 0 0016
000400 0 0018
000442 0 0020
000484 0 0022
000526 0 0024
000569 0 0026
000612 0 0028
000654 0 0030
000695 0 0032
000738 0 0034
999999 0 0036

TC/TI TAPE LISTING

000000 0 0012 0001 097 293000 040274

After averaging the correction values at each depth, these values were subtracted from the corresponding depth to obtain the echo-sounder depth versus the correction plot (Graph #5). This is the necessary plot used to generate the velocity table tape which is listed in the Appendix.

Velocity corrections were verified by leadline comparisons taken on Julian Day 106 and 121. The data is in the Appendix, and listed below are the results.

| <u>Lead Line</u> | <u>Velocity Corr.</u> | <u>Avg. Depth</u> | <u>% Discrepancy</u> |
|------------------|-----------------------|-------------------|----------------------|
| 106 | 3.0' | 75.9' | 0.6% |
| 121 | 2.7' | 70.0' | 1.3% |

These leadlines are in good agreement with the velocity corrections used for this sheet. The larger discrepancy on Day 121 was probably due to the 2 ft. seas that day.

C. TRA CORRECTIONS

Settlement and squat observations were made on Ship WHITING 6 September 1973 (see Fathometer and Velocity Report, Project OPR-436-WH-73, Coast of South Carolina and Georgia). The results are as follows:

| | |
|---------------|--------|
| Full Speed | .7 ft. |
| Reduced Speed | .2 ft. |

The WHITING's draft was measured during the times of hydrography. A draft of 10.0' was used in the hydroplot controller except at times of reduced speed, when 9.5' was used, or a -0.5' was used as the TRA correction on the corrector tape. This procedure eliminated the need for correcting for reduced speed soundings on the TC/TI tape. All ship TRA correctors are of the form:

$$\text{TRA} = \text{Draft} + \text{S\&S}$$

$$= \text{Hydroplot Draft} + (\text{Draft} - \text{Hydroplot Draft}) + \text{S\&S}$$

Full Speed:

$$\text{TRA} = 10.0' + (\text{Draft} - 10.0') + 0.7'$$

Reduced Speed:

$$\text{TRA} = 9.5' + (\text{Draft} - 9.5') + 0.2'$$

$$= 9.5' + (\text{Draft} - 10.0' + 0.5) + 0.2'$$

$$= 9.5' + (\text{Draft} - 10.0') + 0.7'$$

The above shows that only the sum of $(\text{Draft} - 10.0') + 0.7'$ must be used on the TC/TI tape.

The average draft was calculated to be 10.5' (see Draft Data Table). The largest deviation for any cruise average was 0.2', which is only 0.6% of the minimum depth of hydrography. The value used on the TC/TI tape is:

$$\text{TRA} = (10.5' - 10.0') + 0.7'$$

$$= 1.2'$$

The TC/TI tape is listed in the Appendix.

No echo-sounder initial corrections were necessary since the echo-sounder was initialed at zero feet and checked frequently.

DRAFT DATA

| | Date | Julian Day | Ship Load Note | Port | Stbd | Average | Draft - 10' |
|--|---------|------------|---------------------------------|-------|-------|---------|-------------|
| | 29 Mar. | 088 | After fueling | 10.5' | 10.8' | 10.6' | .6' |
| | 15 Apr. | 105 | Before fueling | 10.5' | 11.0' | 10.8' | .8' |
| | 15 Apr. | 105 | After fueling | 10.7' | 10.7' | 10.7' | .7' |
| | 29 Apr. | 119 | Before fueling | 10.3' | 10.3' | 10.3' | .3' |
| | 30 Apr. | 120 | After fueling | 10.3' | 10.7' | 10.5' | .5' |
| | 13 May | 133 | Before fueling | 10.5' | 10.0' | 10.2' | .2' |
| | 13 May | 133 | After fueling | 10.5' | 11.0' | 10.8' | .8' |
| | 20 May | 140 | After leadline | 10.8' | 9.8' | 10.3' | .3' |
| | | | | | | | |
| | | | Average for period 3/29 to 5/20 | | | 10.5' | .5' |
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APPROVAL SHEET

Submitted by:

Edward D. Gullekson

Edward D. Gullekson
ENS, NOAA

Approved/Forwarded:

Robert A. Trauschke

Robert A. Trauschke
CDR, NOAA

Commanding Officer, NOAA Ship WHITING

TIDE NOTE

Predicted tides for this survey area were taken from the daily predictions of Savannah River entrance, Georgia, 1974, with appropriate differences applied for Savannah Light. The WHITING was furnished the following differences from Tides Branch for Savannah Light: -30 minutes for high and low, no correctors for height, and a .95 ratio. The following differences were used: -30 minutes for high and low, +0.0 feet for low, -0.4 feet for high, and a ratio of 1.0. The correctors for height were used because our software did not allow ratios with significant digits in the hundredths place.

The geographic locations for the tide gages encompassed in the survey area are as follows:

| <u>Name</u> | <u>Latitude</u> | <u>Longitude</u> |
|--------------------|-----------------|------------------|
| Ft. Pulaski, GA | 32° 02' .0N | 80° 54' .1W |
| Savannah Beach, GA | 32° 00' .3N | 80° 50' .5W |
| Savannah Light, GA | 31° 57' .0N | 80° 40' .5W |
| St. Simons, GA | 31° 08' .0N | 81° 23' .7W |
| Sapelo Island, GA | 31° 23' .5N | 81° 17' .0W |

The standard tide gage at Fort Pulaski, Georgia (Savannah River entrance) served as the basic control gage. Data from all stations except Savannah Light was sent directly to Tides Branch, Rockville Office C-331. Hourly heights from Marigrams for Savannah Light Bubbler gage were scanned by WHITING personnel and sent to C-331 along with ADR tapes for Savannah Light.

A copy of the letter to Chief, Tides Branch, C-331 is included in this report.

7/10/74

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Atlantic Marine Center:

Hourly heights are approved for Form 362

Tide Station Used (NOAA Form 77-12): Sapelo Island

Period: April 7 - May 18, 1974

HYDROGRAPHIC SHEET: H9429

OPR: 436

Locality: Coast of Georgia

Plane of reference (mean ~~lower~~ low water): 3.9 ft.

Height of Mean High Water above Plane of Reference is 6.6 ft.

Remarks: Recommended zoning:

81°15' - 81°00'

Direct ¹

81°00' - 80°50'

Apply 0.94 range ratio ²

80°50' - 80°35'

Apply 0.88 range ratio ³

James R. Hubbard

for Chief, Tides Branch

GEOGRAPHIC NAMES

H-9429

| Name on Survey | | | | | | | | | | | |
|----------------|--------------|------------------------|-------------------------|------------------------|---------------|-------------------|--------------------|-----------------|---|---|----|
| | A | B | C | D | E | F | G | H | I | K | |
| | ON CHART NO. | ON PREVIOUS SURVEY NO. | ON U.S. QUADRANGLE MAPS | FROM LOCAL INFORMATION | ON LOCAL MAPS | P.O. GUIDE OR MAP | RAND McNALLY ATLAS | U.S. LIGHT LIST | | | |
| ATLANTIC OCEAN | | | | | | | | | | | 1 |
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Approved
Chas. E. Harrington
Staff Geographer
11 June 1975

ATLANTIC MARINE CENTER
APPROVAL SHEET
FOR
AUTOMATED SURVEY H-9429

- A. All revisions and additions made on the smooth sheet during verification have been entered in the magnetic tape records for this survey. A new final position printout has/has not been made. A new final sounding printout has/has not been made.

Date: April 14, 1975

Signed: William L. Jorne

Title: Chief, Verification Branch

- B. The verified smooth sheet has been inspected, is complete, and meets the requirements of the Hydrographic and AMC Manuals. Exceptions are listed in the verifier's report.

Date: April 14, 1975

Signed: Reg. N. Barr
for E. Dale North, Jr. Lcdr, NOAA

Title: Chief, Processing Division

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9429

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

| RECORD DESCRIPTION | | | AMOUNT | RECORD DESCRIPTION | | | AMOUNT |
|---------------------------|---------------|----------------------|-----------|-----------------------|---------------|--------------------------------|--------|
| SMOOTH SHEET & 2-Overlays | | | 1 | BOAT SHEETS (3 parts) | | | 1 |
| DESCRIPTIVE REPORT | | | 1 | OVERLAYS | | | 2 |
| DESCRIPTION | DEPTH RECORDS | HORIZ. CONT. RECORDS | PRINTOUTS | TAPE ROLLS | PUNCHED CARDS | ABSTRACTS/ SOURCE DOCUMENTS | |
| ENVELOPES | 2 | | 1 | | | 1 | |
| CAHIERS | 2 | | 1 | | | | |
| VOLUMES | | | | | | | |
| BOXES | | | 1 | | | | |

T-SHEET PRINTS (List)

N/A

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

The following statistics will be submitted with the cartographer's report on the survey

| PROCESSING ACTIVITY | AMOUNTS | | | |
|--|------------------|---------------------------------|-----------------------------|--------|
| | PRE-VERIFICATION | VERIFICATION | REVIEW | TOTALS |
| POSITIONS ON SHEET | | | | |
| POSITIONS CHECKED | | 5116 | | 5116 |
| POSITIONS REVISED | | 5 | | |
| DEPTH SOUNDINGS REVISED | | 511 | | |
| DEPTH SOUNDINGS ERRONEOUSLY SPACED | | 0 | | |
| SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED | | 0 | | |
| | TIME (MANHOURS) | | | |
| TOPOGRAPHIC DETAILS | | 0 | | |
| JUNCTIONS | | 4 | | |
| VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS | | 40 | | |
| SPECIAL ADJUSTMENTS | | 4 | | |
| ALL OTHER WORK | | 100 | | |
| TOTALS | | 148 | 105 | |
| PRE-VERIFICATION BY H. R. Smith | | BEGINNING DATE July 15, 1974 | ENDING DATE 18 Sept. 74 | |
| VERIFICATION BY R. G. Cram | | BEGINNING DATE 15 Jan. 1975 | ENDING DATE 23 Jan. 1975 | |
| REVIEW BY F. P. Saulsbury | | BEGINNING DATE Nov. 1975 | ENDING DATE Dec. 1975 | |

Curson Inspection X.W. Wellman

39 hrs.

ENGLE 845 8-7-74

U.S. G.P.O. 1972-769-562/439 REG.#6

REGISTRY NO. _____

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. H-9429

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE 10-12-82 TIME REQUIRED _____ INITIALS gac

REMARKS:

OFFICE OF MARINE SURVEYS AND MAPS

HYDROGRAPHIC SURVEYS DIVISION

MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-9429

FIELD NO. WH-40-2-74

Georgia, Georgia Coast--Offshore, East of Sapelo Island

SURVEYED: April 7 - May 17, 1974

SCALE: 1:40,000

PROJECT NO.: OPR-436

SOUNDINGS: Ross 5000 Depth Recorders

CONTROL: Decca Sea-Fix
(Hyperbolic Mode)

| | |
|--------------------------------------|-------------------------|
| Chief of Party | R. A. Trauschke |
| Surveyed by | R. A. Trauschke |
| | W. R. Daniels |
| | A. E. Theberge, Jr. |
| | B. B. Meyers |
| | E. Gastaldo |
| | K. W. Perrin |
| | E. D. Gullekson |
| | J. H. Bennet, Jr. |
| Automated Plot by | Calcomp 618 (AMC) |
| Verified by | R. G. Cram |
| Reviewed by | F. P. Saulsbury |
| | Date: December 29, 1975 |
| Cursory inspection made--survey | K. W. Wellman |
| processing considered complete | July 23, 1979 |

1. Control and Shoreline

The origin of control is adequately described in part F of the Descriptive Report.

No shoreline falls within the limits of this survey.

2. Hydrography

a. Depths at crossings are in good agreement.

b. The usual depth curves are adequately delineated. Supplemental, dashed, and brown depth curves were added to emphasize significant isolated bottom features.

c. The development of the bottom configuration and the determination of least depths are considered adequate.

3. Condition of Survey

The sounding records, smooth plotting, and Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual and the Instruction Manual - Automated Hydrographic Surveys with the following exceptions:

a. The verifier apparently used uncorrected soundings from H-9462 (1974) in effecting the junction with the present survey. Appropriate revisions were effected during the review of the present survey.

b. During field work, the hydrographer did not consider chart 11511 (formerly 573) which covers a portion of the present survey at a larger scale than chart 11509 (formerly 1241).

4. Junctions

An adequate junction was effected with H-9462 (1974) on the northwest. Due to the 2:1 scale difference, the overlapping depth curves in the area common to adjoining survey H-9462 are exaggerated on the present survey. They are, therefore, not in coincidence in accordance with the customary practice.

The junctions between the present survey and the following surveys are discussed in their respective Review Reports and require no further consideration:

H-9144 (1973-74) on the north
H-9299 (1972) on the east
H-9375 (1974) on the east
H-9430 (1974) on the south
H-9472 (1974) on the west
H-9473 (1974) on the southwest

5. Comparison with Prior Surveys

a. H-691 (1859) 1:20,000
H-728 (1860, 1906) 1:300,000
H-768 (1860) 1:500,000
H-3554 rec (1910-12) 1:50,000
H-3560 rec (1912-13) 1:100,000

These prior surveys comprise early coverage of the present survey area but are not discussed in the present review.

b. H-3983 (1916-17) 1:80,000

This prior survey covers the area of the present survey. A comparison of present survey depths with prior survey depths reveals areas of good agreement intermingled with depth differences generally within ± 8 feet and ranging to a maximum indication of present depths as much as 17 feet shoaler than prior depths. The noted depth differences are attributed to the natural shifting of the predominantly sand bottom sediments which is characteristic of the survey area.

Numerous bottom characteristics were carried forward from the prior survey to supplement the present survey. With the addition of the referenced bottom characteristics, the present survey is adequate to supersede the prior survey within the common area.

6. Comparison with Chart 11509 (formerly 1241), 12th Edition, Jan. 11, 1975
11510 (formerly 574), 8th Edition, Sept. 28, 1974
11511 (formerly 573), 7th Edition, March 22, 1975

a. Hydrography

The charted hydrography originates with the previously discussed surveys which require no further consideration, supplemented by soundings from the boat sheet (Bp's 89963-65) and verified smooth sheet of the present survey.

Attention is directed to the following:

(1) It is noted that numerous charted soundings which originate with preliminary information from Bp-89963 (boat sheet) are generally shoaler than the corresponding depths on the final smooth sheet and should be revised accordingly.

(2) The Obstruction, Fish Haven charted in the vicinity of latitude $31^{\circ}24.50'$, Longitude $80^{\circ}52.60'$ originates with Local Notice to Mariners 33 of 1973. This feature is neither verified nor disproved by the present survey and should be retained as presently charted.

Except as noted in (2) above, the present survey is adequate to supersede the charted hydrography within the common area.

b. Aids to Navigation

The lighted whistle buoy R"2S" is located in latitude $31^{\circ} 28.09'$, longitude $80^{\circ}54.64'$ on the present survey, approximately 800 meters southwest of its charted location. In its present position, the buoy adequately serves its intended purpose.

The privately maintained Fish Haven Buoy "SLB" charted in the vicinity of latitude 31°24.5', longitude 80°52.6' from Local Notice to Mariners 33 of 1973 was not found by the hydrographer and is assumed to have been removed.

7. Compliance with Instructions

This survey adequately complies with the project instructions.

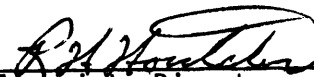
8. Additional Field Work

This is a good basic survey of the area and no additional field work is recommended.

Examined and Approved:



Acting Chief
Hydrographic Surveys Division



Associate Director
Office of Marine Surveys
and Maps

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Rockville, Maryland

Hydrographic Index No. 75 J

